

## WHAT IS CLAIMED IS:

- 1 1. An RNase A superfamily polypeptide having an N-terminus of the sequence: X<sup>1</sup>X<sup>2</sup>SLX<sup>3</sup>V, wherein X<sup>1</sup> represents methionine or is absent, X<sup>2</sup> represents glycine or is absent, and X<sup>3</sup> represents an amino acid residue, said RNase A superfamily polypeptide being selectively toxic to a proliferating endothelial cell.
- 1 2. An RNase A superfamily polypeptide of claim 1 having SEQ. ID. No.: 2.
- 1 3. An RNase A superfamily polypeptide of claim 1 having 90% homology to SEQ. ID. No.: 2.
- 1 4. An RNase A superfamily polypeptide of claim 1 having SEQ. ID. No.: 4.
- 1 5. An RNase A superfamily polypeptide of claim 1 having 90% homology to SEQ. ID. No.: 4.
- 1 6. An RNase A superfamily polypeptide of claim 1 wherein the N-terminus is MSLHV.
- 1 7. An RNase A superfamily polypeptide of claim 1 wherein the N-terminus is MGSLHV.
- 1 8. An RNase A superfamily polypeptide of claim 1 wherein the N-terminus is attached to the EDN protein.
- 1 9. An RNase A superfamily polypeptide of claim 1 wherein the proliferating endothelial cell is a neoplastic endothelial cell.
- 1 10. An RNase A superfamily polypeptide of claim 1 wherein the proliferating endothelial cell is a non-neoplastic endothelial cell.
- 1 11. An RNase A superfamily polypeptide of claim 9 wherein the neoplastic endothelial cell is a Kaposi sarcoma KS Y-1 cell.
- 1 12. An RNase A superfamily polypeptide of claim 9 wherein the neoplastic endothelial cell is a KS Y-3 cell.

- 1    13. An RNase A superfamily polypeptide of claim 9 wherein the neoplastic  
2        endothelial cell is selected from the group consisting of KS 1, KS 2, KS 3, KS 4,  
3        KS 5, and KS 6 cells.
- 1    14. A pharmaceutical composition comprising
  - 2        a. a unit dosage RNase A superfamily polypeptide comprising an N-terminus  
3            of the sequence:  $X^1X^2SLX^3V$ , wherein  $X^1$  represents methionine or is  
4            absent,  $X^2$  represents glycine or is absent, and  $X^3$  represents an amino acid  
5            residue, said RNase A superfamily polypeptide being selectively toxic to a  
6            proliferating endothelial cell; and
  - 7        b. a pharmaceutically acceptable carrier.
- 1    15. A method of selectively inhibiting the growth of a proliferating endothelial cell by
  - 2        a. contacting said cell with an RNase A superfamily polypeptide comprising  
3            an N-terminus of the sequence:  $X^1X^2SLX^3V$ , wherein  $X^1$  represents  
4            methionine or is absent,  $X^2$  represents glycine or is absent, and  $X^3$   
5            represents an amino acid residue, said RNase A superfamily polypeptide  
6            being selectively toxic to a proliferating endothelial cell; and
  - 7        b. detecting the inhibition of the growth of said cell.
- 1    16. The method of claim 15 wherein the proliferating endothelial cell is a neoplastic  
2        cell.
- 1    17. The method of claim 16 wherein the neoplastic cell is a Kaposi sarcoma cell.
- 1    18. The method of claim 17 wherein the Kaposi sarcoma cell is selected from the  
2        group consisting of KS 1, KS 2, KS 3, KS 4, KS 5, KS 6, KS Y-1, and KS Y-3  
3        cells.
- 1    19. A method of treating a patient with proliferating endothelial cells by
  - 2        a. administering an effective amount of an RNase A superfamily polypeptide  
3            comprising an N-terminus of the sequence:  $X^1X^2SLX^3V$ , wherein  $X^1$   
4            represents methionine or is absent,  $X^2$  represents glycine or is absent, and  
5             $X^3$  represents an amino acid residue, said RNase A superfamily  
6            polypeptide being selectively toxic to a proliferating endothelial cell; and

- 7        b. detecting the amelioration of Kaposi sarcoma in said patient
- 1        20. The method of claim 19 wherein the RNase A superfamily polypeptide is in an  
2                   aqueous solution comprising a unit dosage and pharmaceutically acceptable  
3                   excipients.
- 1        21. A method of manufacturing a pharmaceutical composition comprising the step of  
2                   combining the RNase A superfamily polypeptide of claim 1 with a  
3                   pharmaceutically acceptable carrier.

RECEIVED  
JULY 10 2000  
U.S. PATENT AND TRADEMARK OFFICE  
CUSTODIAN OF PATENT RECORDS  
U.S. GOVERNMENT